REMARKS

Reconsideration of the rejections set forth in the Office Action mailed October 11, 2006 is respectfully requested. Claims 9 and 13-8 are currently pending in the application. A two-month extension of time is enclosed.

I. Amendments

Independent claim 9 is amended to include the limitations that:

(a) the microbubbles are between 0.1 to 10 microns in diameter, as disclosed, for example, at page 5, line 16;

(b) the filmagenic protein is human serum albumin, as recited, for example, in now-cancelled claim 3;

(c) the microbubbles are perfluorbutane microbubbles, as disclosed, for example, on page 3, line 21; and

(d) the microbubbles are administered under conditions in which the microbubbles deliver the agent to the tumor target site, as disclosed, for example, on page 4, lines 23 and 24, and

(e) the agent is allowed to be released at the target site without the use of external stimulation, as disclosed, for example, on page 4, lines 24 and 25.

Composition claims 1-8 and dependent method claims 10-12 stand cancelled by this Amendment.

No new matter has been added by these amendments.

II. Rejections under 35 U.S.C. § 102(b) and U.S.C. § 103(a)

Claims 1-17 have been rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over USPN 5,542,935 "Unger et al." As these rejections apply to the currently pending method claims 9 and 13-18, the Applicants respectfully traverse the rejections in view of the above amendments and following remarks.

A. The Invention

Applicants' invention, as embodied in independent method claim 9, is drawn to a method for delivering an antiproliferative therapeutic agent to the site of a tumor in a subject. The method includes the steps of:

(1) administering parenterally to a subject having a tumor, a microbubble composition composed of a suspension of perfluorobutane microbubbles between 0.1 to 1.0 microns in diameter which are encapsulated with human serum albumin, under conditions in which the microbubbles deliver the agent to the tumor target site, and

(2) allowing the agent to be released at the target site without the use of external stimulation.

In accordance with the invention, the microbubbles, when administered to a subject having a tumor, localize at the tumor site and release the therapeutic agent without the use of externally supplied energy.

B. The Cited Art

The Unger reference describes therapeutic compositions comprising microspheres which contain a “gaseous precursor” and comprise a therapeutic drug. The “microspheres” are described as liposomes throughout the disclosure. At column 29, lines 10-23, it is noted other materials making up the lipid particles may include “proteins such as albumin” as well as: synthetic peptides such as polyglutamic acid; linear and branched oligomers and polymers of galactose, glucose and other hexosaccharides; polymers derived from phosphorylated and sulfonated pentose and hexose sugars and sugar alcohols; carbohydrate polymers such as alginic acid, dextran, starch and HETA starch; other natural polymers, such as hyaluronic acid; and synthetic polymers such as polyethyleneglycol, polyvinylpyrrolidone, polylactide, polyethyleneimines (linear and branched), polyionenes or polyiminocarboxylates." Albumin is discussed at column 23, lines 2-9, in the context of stabilization:

> "Gas microspheres stabilized by albumin and other proteins are less effective as these stabilizing coating [sic] are more brittle and are easily broken during pressure changes, for example, by passage through the heart and arteries. Liposomes prepared using aliphatic compounds are preferred, as microspheres stabilized with these compounds are much more flexible and stable to pressure changes."

For delivery of DNA, cationic lipids are recommended (column 29, lines 24-47).

Thus, Unger appears to teach away from non-lipid microparticles formed by encapsulating microbubbles with a filmogenic protein. In any case, all of the therapeutic methods disclosed in Unger involve the application of external energy to the microparticles to release therapeutic agent therefrom.

C. Analysis

The standard for lack of novelty is one of strict identity. To anticipate a claim for a patent, a single prior source must contain all its essential elements. M.P.E.P. § 2131.

As discussed above, the Unger reference does not disclose all the claim limitations of newly amended claim 9, including the limitation that the agent is released at the target site without the use of external stimulation. Thus, the reference cannot be considered to anticipate the claimed invention.

Nor would it be obvious to modify Unger to achieve the claimed invention, since Unger teaches away from the type of encapsulated microparticles encompassed by the presently claimed method, as noted above. Further, the microparticle compositions taught by Unger appear to require an external energy source to release the therapeutic agent on the particles, and thus, presumably, modifying the Unger method to omit this step would render the Unger invention inoperative.

Accordingly, the claims cannot be said to be anticipated or obvious over the cited art. In view of the foregoing, applicants respectfully request the Examiner to withdraw the rejections under 35 U.S.C. §§ 102(b) and 103(3).

III. Conclusion

Applicants submit that the pending claims are now in condition for allowance. A Notice of Allowance is, therefore, respectfully requested.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is encouraged to call the undersigned at (650) 838-4341.

No fees are believed due with this communication. However, the Commissioner is hereby authorized and requested to charge any deficiency in fees herein to Deposit Account No. 50-2207.

Respectfully submitted,

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